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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEUBECKER, JOHN P

ART UNIT PAPER NUMBER

3739

DATE MAILED: 02/11/2004

←

Please find below and/or attached an Office communication concerning this application or proceeding.

SN

Office Action Summary	Application No. 10/034,271	Applicant(s) AMLING ET AL.	
	Examiner John P. Leubecker	Art Unit 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/14/03, 11/6/03.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-32, 34-39 and 41-67 is/are pending in the application.
- 4a) Of the above claim(s) 41-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-32, 34-39 and 46-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Specification

1. The disclosure is objected to because of the following informalities: the specification does not describe new Figure 10 or mention that the light source is "within" the CCU.

Appropriate correction is required.

Drawings

2. The drawings were received on November 24, 2003. These drawings are acceptable. Applicant is reminded that all proposed drawing corrections (i.e., those made to Figure 2) must be made in the red color. See 37 CFR 1.121. The Examiner will correct Applicant's Figure 2 this time.

Claim Rejections - 35 USC § 112

3. Claims 23, 63 and 64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 depends from canceled claim 13. For purposes of examination, the Examiner will assume that claim 23 is dependent on claim 1.

Claim 63 further limits the camera, which does not appear to positively claimed in the combination of claim 60, which is directed to a cable. Therefore, the intended scope of this claim is unclear.

Claim 64 fails to further limit the cable structure of claim 60, but appears to merely set forth a capability of such structure. Since it is unclear as to whether or not Applicant is attempting to positively claim a multiplexer, the scope of the claim is indefinite.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-8, 15-22, 26-31, 34-37, 46, 47, 50-56, 58-67 rejected under 35 U.S.C. 102(b) as being anticipated by Monroe et al. (U.S. Pat. 5,311,859).

With respect to claims 1-4, 6-8, 15-22, 26-29, 34-37, 65 and 66, Monroe et al. disclose the device as described in numbered paragraph 9 of the previous Office Action, paper number 2. As Applicant incorporated the limitations of previous claims 13 and 14 (which were indicated as being anticipated by Monroe et al.) into claim 1, claim 1 is still anticipated accordingly. Although Applicant allegedly believes that the grouping (32,34,36) of camera control circuitry and light source is not a "unit", the Examiner takes the position that the reasonable person would consider it a "unit". All that Applicant is claiming is that the light source and camera control unit form a "unit", and thus both are incorporated within such unit. Even if Applicant claims a housing that totally surrounds and encompasses the camera control circuitry and light source, Monroe et al. teaches this (note Figure 1). As to claims 5 and 30, although Monroe et al. fails to disclose the particulars of all the signals necessary to operate the camera head, the Examiner takes the position that the camera head inherently utilizes those signals which are conventional in

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the art, namely horizontal and vertical timing signals, power lines, and a video out (note Ono et al. reference). Therefore, within these four "channels", there would inherently be at least eight electrical conductors (e.g., four H timing, two V timing, one power and one video out, for example). As to claim 26, any of the electrical conductors of Monroe et al. meet the limitation of "at least one electrical channel" and are capable of the function of "transmitting the image data and a control signal in the nature of camera operating information from said camera head to the camera control unit". As to claim 46, the cable transfers data bidirectionally (e.g., image data one way and CCD control signals the other way). As to claims 53-55, signals including timing signals. All claim 60 requires is an electrical conductor and a light guide, surrounded by a jacket. These elements have already been pointed out. Since claims 63 and 64 do not further limit the structure of the cable, it is noted that the cable of Monroe et al. is capable of transmitting image data and multiplexed signals (any electrical conductor is). Furthermore, the elements of claim 67 have already been pointed out above.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-8, 10, 12, 15-22, 26-31, 34-37, 46, 47, 50-56 and 58-67, rejected under 35 U.S.C. 103(a) as being unpatentable over D'Alfonso et al. in view of Monroe et al. or Konomura et al. (U.S. Pat. 6,388,702).

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D'Alfonso et al. disclose a camera head (3), a camera control unit (1) and a cable (5) having at least four channels (Fig. 2) (note a "channel" as defined by Applicant could be a single conductor or group of conductors). D'Alfonso et al. fails to disclose a light guide within the cable (no light guide is disclosed because it appears that the endoscope 7 is one in which a light source is not used). However, it is notoriously well known and conventional to use a light source with an endoscope to provide light for places having none, e.g., inside the body. Monroe et al. teaches a similar endoscope system (Fig. 1) in which a light source, mounted within the camera control unit (32,36), transmits light to the camera head and into the endoscope through a light guide extending through the signal cable (30). In addition, Konomura et al. teach an endoscope system in which a light source (43, Fig. 1), mounted within the camera control unit (3, Fig. 2), transmits light to the camera head and into the endoscope through a light guide extending through the signal cable (8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the D'Alfonso et al. camera system with a endoscope requiring a light source to allow the camera system to view images in places where light is not available (e.g., inside the body). Furthermore, in accordance with the teachings of Monroe et al. and Konomura et al., it would also have been obvious to have provided a light source, mounted within the camera control unit, with a light guide extending through the signal cable. This known arrangement allows components that are normally used together, normally situated together during use, and having electrical/optical channels that extend to the same device to be conveniently combined, which would among other things, reduce the amount of space required and the number of cables extending between the camera control unit and endoscope. With the modification proposed above, a light source located in the camera control unit (1) of D'Alfonso

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et al. would inherently output light through the unit and into the light guide disposed in the cable connector.

D'Aflonso et al. further discloses control signals being transmitted from the camera control unit to the camera head (e.g., V timing), control signals being transmitted from the camera head to the camera control unit (e.g., using serial data line) and image data being transmitted from the camera head to the camera control unit. In addition, taking the V timing signals as a channel, the H timing signals as a channel, the power supply signals as a channel and the video out as a channel, there are eight electrical conductors for these four channels (note Figure 3).

8. Claims 9, 11, 32 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over 1) Monroe et al. in view of Mckenna et al (U.S. Pat. 6,261,266) and separately over 2) D'Aflonso et al. in view of Monroe et al. or Konomura et al., and further in view of Mckenna et al., for the reasons set forth in numbered paragraph 12 of the previous Office Action, paper number 2.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over 1) Monroe et al. in view of Hattori (U.S. Pat. 4,356,534), and separately over 2) D'Alfonso et al. in view of Monroe et al. or Konomura et al., and further in view of Hattori, for the reasons set forth in numbered paragraph 15 of the previous Office Action, paper number 2.

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10. Claims 24, 25, 38, 39, 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over 1) Monroe et al. in view of "Interface Circuits for TIA/EIA-644 (LDVS) Design Notes" (hereinafter, "LDVS Design Notes") and separately over 2) D'Alfonso et al. in view of Monroe et al. or Konomura et al., and further in view of "LDVS Design Notes", for the reasons set forth in numbered paragraph 13 of the previous Office Action, paper number 2.

Response to Arguments

11. Applicant's arguments filed November 6, 2003 have been fully considered but they are not persuasive.

Applicant appears to be claiming/disclosing a signal cable that incorporates as many channels as necessary (note paragraph [0034] of the specification which indicates that although four channels are depicted, it will be obvious to one of ordinary skill in the art to use fewer or more data channels) to support a conventional camera/control unit combination (note paragraph [0005] of the specification). The one thing that Applicant did not suggest was conventional or obvious was the inclusion of a light guide in the cable with the data channels. However, the cited prior art evidenced that this concept had been contemplated well before the alleged invention by Applicant. With the Amendment filed November 6, 2003, it appears that Applicant now feels that the invention lies in the inclusion of the light source "within" the camera control unit. Although not claimed, it appears that this might encompass a structure (e.g., housing) that surrounds both the camera control circuitry and the light source.

With respect to the Monroe et al. reference, Applicant submits that the light source "is clearly not mounted in a camera control unit". The Examiner takes the position that it is not as

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“clear” as Applicant contends. Two devices situated and used together can form a “unit” wherein each of those devices are “within” the unit. The light source and camera control circuitry of Monroe et al. meet this broad interpretation. Furthermore, two devices encompassed and surrounded by a structure (e.g., housing) would also qualify the devices as being “within” the structure or unit. The structure surrounding and encompassing the light source and camera control circuitry in Monroe et al. also meets this interpretation. Therefore, the Examiner takes the position that Monroe et al. anticipates this limitation in both respects. The Examiner has also cited additional references (note that Nakajima ('075) and Katsurada ('983) have previously been cited in the application) below to evidence that such a concept is shown in other prior art references.

Although a rejection using the Ono et al. reference does not appear above, the Examiner still believes that Ono et al. is extremely relevant to the claimed invention. However, because of time requirements on the Examiner and the overly broad claims, the Examiner had to limit the number of rejections made while still accurately reflecting the position with respect to patentability. While the schematically illustrated light source (60) and camera control unit (70) of Ono et al. could be considered as a “unit”, the Examiner takes the position that there would be motivation to combine them into one housing (e.g., note Konomura et al. or Arakawa et al.).

With respect to the previously made obviousness rejections under 35 U.S.C. 103(a) over McKenna et al., Hattori, and the “LDVS Design Notes”, these references were cited to provide a prima facie showing of obviousness for certain claimed elements. Applicant failed to rebut these showings of obviousness in response to each rejected claim and each reference. Any further arguments concerning these rejections will be considered moot. Since no purported errors were

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pointed out with respect to the merits of these rejections, they are considered proper and are repeated above.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arakawa et al. (U.S. Pat. 4,667,230)—note light source/camera control unit 32 (col.3, lines 30-35). Also note that Arakawa shows a signal cable between the camera control head (30) and camera control unit (32) with at least eight conductors, wherein the camera control head generates both image data and a control signal (adjusting means 70) for transmission to the camera control unit.

Oshima (U.S. Pat. 6,638,212)—note shared line control signals from camera head to camera control unit.

Lee (U.S. Pat. 5,716,323)—note camera head/camera control unit.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

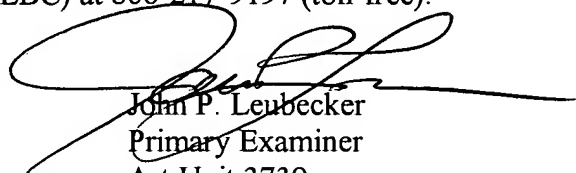
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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (703) 308-0951. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Leubecker
Primary Examiner
Art Unit 3739

jpl